

♀. Head opaque; the clypeus covered with silver pubescence, with two small teeth in the middle of the apical margin. Eyes separated at the base of the clypeus by a distance not quite equal to the combined length of the two basal joints of the flagellum, and by about the same distance on the vertex; posterior ocelli very narrowly separated from the eyes, distinctly larger than the anterior ocellus. Flagellum thickened from the base to the apex, the first joint globular, the remaining joints longer than broad; the front longitudinally impressed below the anterior ocellus, produced into a minute tubercle between the antennæ, very finely and closely punctured. Thorax subopaque, minutely punctured; median segment smooth and shining, with a median longitudinal furrow, but no lateral furrows. Abdomen shining, very minutely punctured; the first segment longer than the second and third combined, the basal half forming a petiole, the apical half very gradually widened to the apex, where it is about half as broad as the apex of the second segment; the third about equal in length to the second and distinctly broader. Hind tibiæ without spines.

Hab. Shillong, Assam, 5000 ft. (*T. Bainbrigge-Fletcher*), October 1916.

XLIII.—*Notes on Petrodromus and Rhynchocyon.*

By OLDFIELD THOMAS.

(Published by permission of the Trustees of the British Museum.)

I OWE to the kindness of Mr. Ernest Warren, of the Natal Museum, Pietermaritzburg, the opportunity of examining a number of small mammals which had been sent to that museum from various South-African localities. Among them I may record an example of the rare *Otomys laminatus*, Thos. & Schw., from Induku-duku, near Umfolozi, and a *Petrodromus* from Manguzi, N. Zululand, the latter being the first-known occurrence of the genus south of the boundary of Portuguese S.E. Africa. This southern *Petrodromus* appears to represent a new subspecies, which may be called

Petrodromus tetradactylus warreni, subsp. n.

General essential characters of true *tetradactylus*, but colour greyer and less buffy throughout. Back with the buffy suffusion at a minimum, sides and hips clear grey,

lower flanks with only a slight indication of the buffy so strongly developed in this region in *tetradactylus*. Under surface as white as in *venustus*, not washed with buffy, as is usual (though not invariable) in *tetradactylus*; chin, however, of the single specimen quite buffy. Facial markings less developed than in *tetradactylus*, the light line over the eye broader, vagner, and less sharply contrasted; the usual large continuous dark patch behind it broken into two and much less conspicuous. Upper surface of hind feet pale brown, as in *tetradactylus*, not so whitish as in *venustus*.

Skull as in *tetradactylus*, with average palatal vacuities.

Dimensions of the type (taken by collector in the flesh):—

Head and body 191 mm.; tail 155; hind foot 56 (also 56 dry); ear 37.

Skull: greatest length 52.4; condylo-basal length 50; zygomatic breadth 27; upper tooth-series 27.5.

Hab. (of type). Manguzi, N. Zululand (6 miles from coast and about the same distance south of the Portuguese frontier).

Type. Young adult male. B.M. no. 18.4.9.1. Original number 86. Collected November 1905 by Mr. Toppin for the Natal Museum, and presented to the British Museum by the latter.

This *Petrodromus* differs from true *P. tetradactylus* by its much greyer and less buffy coloration and its less conspicuous face-markings. In distribution it would seem to be separated, so far as we know at present, from the area of *tetradactylus* by about 6 degrees of latitude, that animal not being hitherto recorded south of 21° S., while the intermediate area is occupied by *P. (Cercoctenus) schwanni*.

In connection with the determination of the Zululand *Petrodromus*, I have made a renewed examination of the considerable series in the Museum, with a view to finding out how far Mr. Hollister's* recent erection of a genus for *P. sultan* and *schwanni*, the species with bulbous tail-bristles, is supported by this material, and especially what is the bearing on this distinction of *P. rovumæ*, so intermediate between the others in its essential characters.

Of the characters of "*Cercoctenus*" recorded by Hollister, those of the bulbous bristles and less imperfect palate are undoubtedly valid, but those drawn from p^1 and p^4 do not appear to be at all constant—the "spikelet" on p^1 is present in several of our *P. sultan* and many of our *P. schwanni*, while the reputed greater complexity of p^4 is not true as

* Smith's, Misc. Coll. vol. lxvi. p. 1 (1916).

compared to many of our large series of *P. tetradactylus*. On the other hand, I may note, as a further character in *P. sultan*, that the anterior incisors are longer and more dominant as compared to the teeth behind them than they are in other species. But even this character is not true of *P. schwanni*, and is equalled in *P. robustus*.

Then, as to *P. rovumæ* and the forms allied to it, I find among the six skulls I refer to the group a variation in the condition of the palate extending over the whole gamut shown by typical *Petrodromus* on the one hand and *Cercoctenus* on the other, the original specimens from the Rovuma having the palate as imperfect as in the former, while one, which I believe to represent *P. nigriseta*, Neum., from Mandera, E. Africa, has it as complete as in the latter.

With regard to the caudal bristles, some specimens of "*Cercoctenus*" *sultan* have them, or, at least, some of them, hardly more knobbed than in *P. rovumæ*, and, on the other hand, some of those of *P. rovumæ* are scarcely more thickened than in the less hairy-tailed forms of true *Petrodromus*.

In view, however, of the way the species overlap geographically, and of the apparently superspecific value of the bristle structure, I would suggest that three subgenera should be recognized—the typical *Petrodromus* (genotype *P. tetradactylus*), characterized by its perfectly normal tail-hairs, a new subgenus *Mesoctenus* (genotype *P. rovumæ*), with thickened and partially differentiated bristles, and *Cercoctenus* (genotype *P. sultan*), with its bristles knobbed and fully differentiated from the other hairs of the tail*.

* It is difficult to enter into the mind of an author (A. Roberts, Ann. Transv. Mus. iv. p. 69) who in 1913 stated that the knobs on the caudal bristles of *P. schwanni* were "probably" due to singeing in grass fires. Of course, forty years ago, when the first specimen of *P. sultan* came, this idea presented itself and was considered, but was even then disprovable by the different lengths, *inter se*, of the bristles, of which fresh ones could be seen pushing up fully formed, among the bases of the longer ones. But now, when dozens of examples of *Petrodromus* with knobbed bristles have been recorded, one can only wonder how Mr. Roberts supposes that every individual sings its tail in exactly the same part and to the same extent.

Mr. Roberts has also given new names to Beira and N.W. Rhodesian forms of *Petrodromus*, of both of which the British Museum possesses topotypes. In the case of the former it seems true that Beira and Gorongosa specimens may be recognized as distinct from those of the Zambezi by their larger size, darker feet, and buffy thighs. But, if this be so, it is certain that the Chirinda series, put in with *tetradactylus* by Mr. Roberts in defiance of the geography of the case, should not be included in that species, but be either *beiræ* or distinct. Personally I believe them to be the latter, and have described them below.

With regard to *occidentalis*, it does not appear that the reputed differences in size hold good, and the name should apparently be synonymized

The following new forms also appear to need description:—

Petrodromus robustus, sp. n.

Similar to *venustus*, but larger and with more powerful muzzle and incisors.

Size rather greater than in *venustus*, the feet stouter. Colour about as in that animal, though not so pale as in the most extreme specimens; feet similarly whitish instead of brown as in *tetradactylus*. Under surface of type white almost without buffy suffusion; the hairs slaty at base. A patch on the chest drabby, but this may be either glandular or artificial, like the chest-staining found in many African small mammals, and often mistaken by ignorant workers for a natural character. Tail well-haired, black except for its basal third below, where it is dull whitish.

Skull very stout and heavy, larger than in any true *Petrodromus*, and only equalled by that of *P. (Cercoctenus) sultan*. The muzzle is long and broadened in front, where it contains the large anterior incisors, not evenly tapering forwards as is usual. Nasals also broader. Palate with the large vacuities characteristic of true *Petrodromus*. Parapterygoid fossæ very broad, the breadth across the pterygoids 10 mm., a breadth only approached in other species when long lateral spines are developed, which is not the case here. The lines of the outer edges of the ectopterygoids, if produced forwards, meet at an angle of about 55° , while this angle is ordinarily about 40° in *tetradactylus* and 43° – 47° in *venustus*, but, of course, there is a good deal of variation in individual cases.

Anterior incisors conspicuously larger than in any other of the allied species, only equalled in length, though not in thickness, by those of *P. (Cercoctenus) sultan*; their length 5 mm. and their greatest diameter 2.2; their height fully double that of i^3 and the canine. Other teeth broad and stout; p^3 as broad posteriorly as anteriorly.

Dimensions of the type (measured in flesh by collector):—

Head and body 193 mm.; tail 178; hind foot 57.5 (56.5 dry); ear 38.

Skull: greatest length 57; condylo-basal length 53.2;

with *venustus*. In the measurements given it is not clear whether "bas. leng." means basal or basilar length, while it is clear that "molar series" includes premolars as well as molars.

I regret to have to recur to the character of Mr. Roberts's mammal work, but accident having necessitated my working on the same things from the same region, I should not be doing my duty if I took the easy course and refrained from commenting on the harm such work is likely to do to the mammalogy of the countries concerned.

zygomatic breadth 31·3; breadth of muzzle above i^3 8·8; nasals $20·5 \times 4·2$; interorbital breadth 9·4; breadth of brain-case 21; palatal length 32; anterior palatal foramina 6·9; breadth of palate outside m^1 19·7. Upper tooth-series 29·3; front of p^4 to back of m^2 11.

Hab. Katanga, Southern Congo basin. Type from the Upper Lufira River. Alt. about 3600'.

Type. Adult male. B.M. no. 7. 12. 13. 7. Collected 21st June, 1907, by Mr. S. A. Neave.

Comparison with about forty skulls of *Petrodromus* (s. s.) from all parts of the range of the genus shows that this animal from the north side of the Congo-Rhodesian watershed stands out markedly from all of them by its heavy muzzle and large anterior incisors. Although adult the type is by no means old, its teeth being but little worn. Many male specimens with teeth more worn are among those with which I have compared it.

With regard to *P. venustus* itself, I am somewhat doubtful if it ought not, like the Zululand form above described, to be considered as a subspecies of *P. tetradactylus*, some of the Nyasa specimens being more or less intermediate between the two. But this question may be left for further material to decide.

Petrodromus tetradactylus swynnertoni, subsp. n.

General colour rather dark as compared with specimens from Gorongoza and Beira, the cinnamon or hazel area of the back less bright, the grey of the flanks more smoky, and the buffy edging of the belly darker. Belly-hairs generally washed with buffy. Upper part of thighs much greyer and less buffy, the buffy of the flanks scarcely continued on to them. In the other form this region is prominently buffy. Upper side of hind feet rather lighter, though not so whitish as in *venustus*.

Dimensions of the type (measured on skin):—

Head and body 200 mm.; tail 164; hind foot 53.

Skull: greatest length 52; condylo-basal length 49; zygomatic breadth 26·5; nasals $20·5 \times 3·6$; breadth of brain-case 19·4; upper tooth-series 27·2; p^4 and two molars 9·7.

Hab. Chiminda Forest, Masetter, S. Rhodesia. Alt. 3900'.

Type. Adult male. B.M. no. 8. 7. 19. 10. Original number 58. Collected 26th June, 1906, by C. F. M. Swynnerton, Esq., and presented by him to the National Museum. Eleven specimens.

This race of *Petrodromus* is readily distinguishable from

the form next north of it, that of Beira and Gorongoza, by its generally duller coloration, and especially by the practical absence of the prominent buffy on the thighs. I have named it in honour of its donor, to whom we owe such interesting series of the mammals of the Chirinda Forest.

Petrodromus (Mesoctenus) mossambicus, sp. n.

Most nearly allied to *P. rovumæ*, but the palate much more complete and the belly-hairs not white to their bases.

Size and general characters quite as in *P. rovumæ*. Colour apparently as in that species in most respects, but, as the specimens of both are in spirit, no exact comparison is possible. It is, however, evident that while in the type of *rovumæ* the belly-hairs are white quite to their bases, that of *mossambicus* has, as is usual in the genus, the bases of all the ventral hairs slaty. In both the chin-hairs are completely white and those of the chest slaty-based. Rump broadly naked, or, rather, clothed with an exceedingly fine pubescence quite different from the general fur.

Skull with its palate about as complete as in average female* specimens of *Cercoctenus*, markedly more perfect than in *rovumæ*, in which the vacuities are as large as or larger than in *Petrodromus* (s. s.). Other characters as in that species. Ectopterygoids rather narrow, the lines of their outer edges making an angle of about 40°.

Dimensions of the type (measured on the spirit-specimen):—

Head and body 170 mm.; tail 148; hind foot 49·5; ear 31.

Skull: greatest length 50·5; condylo-basal length 47; zygomatic breadth 26·5; nasals 20 × 3·8; interorbital breadth 9; palatal length 28·7; breadth across pterygoids 7·5; upper tooth-series 26·5; p^4 and two molars 9.

Hab. Cabaceira, Mozambique.

Type. Adult female in spirit. B.M. no. 64. 12. 6. 1. Collected and presented by Sir John Kirk.

This is the female specimen recorded as *P. rovumæ* "without exact history" in my original description of that animal. But I have since found out that it came from Cabaceira, a distance from the Rovuma quite sufficient to render the differences above noticed worthy of recognition. From *P. (M.) nigriseta*, Neum., to which I assign a specimen from

* Throughout the group male skulls have on the average rather more complete palates than female, though there are many exceptions to this rule.

Mandera, East Africa, it is distinguishable by its broadly naked rump, that region in *nigriseta* being about as hairy as in ordinary *Petrodromus*.

RHYNCHOCYON.

Since in *Rhynchocyon* there are three conspicuously different types of coloration—those of the *cirnei*, *petersi*, and *chrysopygus* groups respectively,—it seemed likely that a close examination of the skulls would indicate the advisability of a triple subdivision of this genus also. Such, however, proves to be only partially the case, for the natural grouping would appear to be into two, as follows :—

RHYNCHOCYON, s. s.

Back with a chess-board pattern; ground-colour some shade of grey, rarely a little rufous.

Outer upper incisor normally deciduous.

Genotype. *R. cirnei*, Peters.

RHINONAX, subgen. nov.

Back without chess-board pattern. Ground-colour deep rufous or chestnut, the posterior back yellow or black.

Outer upper incisor normally permanent.

Genotype. *R. chrysopygus*, Günth.

Also contains *R. petersi* and its allies.

The fact that the character of the permanence or otherwise of the upper incisor is not absolutely constant in either subgenus, a small proportion of the skulls of each providing exceptions to the rule, induces me to treat these groups merely as subgenera, and not full genera.

I may take this opportunity formally to select B.M. no. 80. 11. 30. 7, with its skull 1758 a, as a lectotype of *R. (Rhinonax) chrysopygus*, the other two co-types mentioned by the author thus becoming lecto-paratypes.

XLIV.—*A new Wild Dog from the Bogotá Cordillera.*

By OLDFIELD THOMAS.

(Published by permission of the Trustees of the British Museum.)

THE British Museum owes to the Rev. Prof. Apollinaris Maria, of the Faculty of Medicine, Bogotá, an example of a wild dog from the eastern slopes of the Bogotá Cordillera, and this appears to me to represent a species not hitherto described.